AEROMOTIVE
Part # 16303
INSTALLATION INSTRUCTIONS

CAUTION:

Installation of this product requires detailed knowledge of automotive systems and repair procedures. We recommend that this installation be carried out by a qualified automotive technician.

When installing this product, wear eye goggles and other safety apparel as needed to protect yourself from debris. If the vehicle must be raised to obtain access to the undercarriage, make sure the vehicle is supported by jack stands on a hard, level surface. Set the vehicle parking brake and use wheel chocks as necessary.

WARNING!

Disconnect the vehicle negative battery cable before beginning this installation. Observe all routine safety precautions when working on or near the vehicle battery.

Note: This device is intended for use on mildly supercharged or turbo charged OEM non-return style fuel systems. This device will not function on return style fuel systems, unless the external boost pump is placed after the by-pass regulator. For accurate tuning, a wide band O_2 sensor is highly recommended.

Note: If using the PSC on a distributorless ignition system, i.e. Ford modular motors or GM LS series motors. The use of a Tach driver, Autometer 9117 or equiv., will be required

Aeromotive system components are not legal for sale or use on emission controlled motor vehicles.

This kit contains the following parts:

1 ea DFMU Module
20ft Red 12 Ga. Wire
10ft Black 12 Ga. Wire
20ft Red 16 Ga. Wire
10ft Green 16 Ga. Wire
1ea Blue #10 Ring Connector
6ea Yellow #10 Ring Connector
1 ea Yellow 3/8" Ring Connector
2ea Blue Butt Connector
2ea Yellow Butt Connector
4ea Yellow #6 Spade Connector
3ea Blue #6 Spade Connector
2ea Blue Quick Tap connector
1ea Circuit Breaker, 20Amp

The following steps are typical of most installations:

1. Once the engine has been allowed to cool, disconnect the negative battery cable and relieve the fuel system pressure.

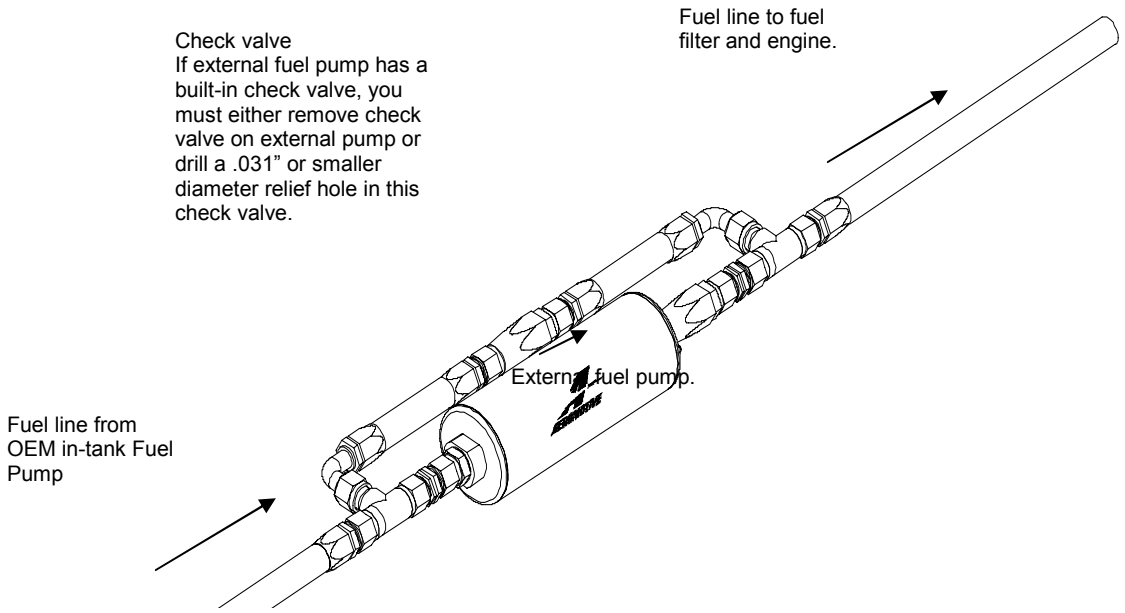
2. Raise the vehicle and support it with jack stands.

3. Referring to the appropriate vehicle service manual for instructions, drain, disconnect any electrical and fuel component connections necessary.

4. Find a suitable place in the vehicle to mount the Aeromotive Digital FMU. Make sure the location will accessible during test-driving for tuning. Typical mounting locations include being mounted in the center console, glove compartment, etc.

Note: The Digital FMU is not weatherproof and must be mounted inside the vehicle!

5. Acquire all the necessary high-pressure hoses, fittings, check valves and fuel pump shown in the plumbing diagram below.


Check valve
If external fuel pump has a built-in check valve, you must either remove check valve on external pump or drill a .031" or smaller diameter relief hole in this check valve.
Fuel line to fuel filter and engine.
External fuel pump.
Fuel line from OEM in-tank Fuel Pump

6. If the external fuel pump you have chosen has a built-in check valve, either remove the check valve or drill a .031" or smaller hole in the ball or flapper inside the check valve routing the fluid around the external pump, this will allow pressure to slowly bleed off once boosted fuel pressure is achieved. If the external fuel pump you have chosen does not have a check valve you will not have to make this modification. The Aeromotive fuel pumps p/n 11103 and 11106 do not have built-in check valves.

7. Find a suitable mounting location for the external fuel pump. Typical mounting locations include mounting the fuel pump to the fuel tank shield or mounting to the inside of the frame rail.

Note: Be sure to route all fuel lines clear of any moving suspension or drivetrain components and any exhaust components! Protect fuel lines from abrasion and road obstructions or debris.

8. Referring to the above plumbing diagram make all plumbing connections as shown.

9. Using a piece of the enclosed #12 black wire, plan a route from the external fuel pump negative lead to a good clean chassis ground. Cut the wire to the desired length and on one end of the wire crimp on either one of the yellow butt connectors or one of the yellow #10 ring connectors to connect the external fuel pump negative wire or terminal. On the other end of the wire crimp on one of the yellow #10 ring connectors to connect to the chassis ground.

Note: Be sure to route all fuel lines clear of any moving suspension or drivetrain components and any exhaust components! Protect fuel lines from abrasion and road obstructions or debris.

10. Using a piece of the enclosed #12 red wire, plan a route from the external fuel pump positive lead to the mounting location of the Digital FMU inside the vehicle. Cut the wire to the desired length and on one end of the wire crimp on either one of the yellow butt connectors or one of the yellow #10 ring connectors to connect the external fuel pump positive wire or terminal. On the other end of the wire crimp on one of the yellow spade connectors to connect to the Digital FMU terminal labeled "+PUMP", refer to the DFMU wiring diagram.

Note: Be sure to route all fuel lines clear of any moving suspension or drivetrain components and any exhaust components! Protect fuel lines from abrasion and road obstructions or debris.

11. Using the remaining #12 red wire, plan a route from a +12 volts power source through the included 20 Amp circuit breaker and then to the Digital FMU inside the vehicle. For the greatest protection, mount the circuit breaker as close to the power source as possible. Cut the wire to the desired length and on one end of the wire crimp one of the yellow 3/8" ring connectors, on the other end of the wire crimp on one of yellow spade connectors to connect to the Digital FMU terminal labeled "+BAT". Use two of the Yellow #10 Ring connectors at the circuit breaker. Refer to the Digital FMU wiring diagram.

Note: Be sure to route all fuel lines clear of any moving suspension or drivetrain components and any exhaust components! Protect fuel lines from abrasion and road obstructions or debris.

12. Using the remaining #12 black wire, plan a route from a chassis ground inside the vehicle to the Digital FMU inside the vehicle. Cut the wire to the desired length and on one end of the wire crimp one of the yellow #10 ring connectors. On the other end of the wire crimp on one of yellow spade connectors to connect to the Digital FMU terminal labeled "GND". Refer to the Digital FMU wiring diagram.

13. Using a piece of the #16 red wire, plan a route from a "key-on" +12 volt power source to the Digital FMU inside the vehicle. Cut the wire to the desired length and on one end of the wire crimp the necessary connector to make the connection, on the other end of the wire crimp on one of the blue spade connectors to connect to the Digital FMU terminal labeled "IGN". Refer to the Digital FMU wiring diagram.

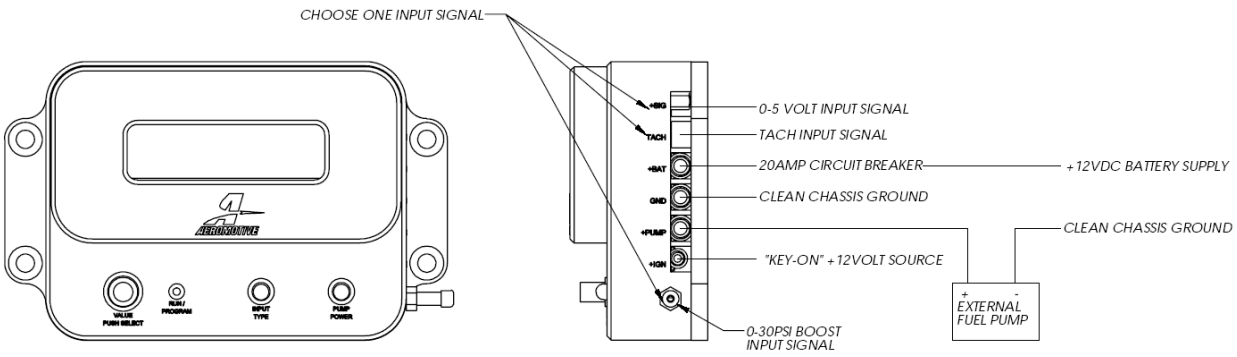
14. The DFMU can be controller through one of the three input options; The most common will be the 0-15 PSI boost pressure port. There is also a 0-5VDC input for use with a TPS sensor or and a RPM signal input. To utilize the boost port, run a line from a manifold boost source to the inside of the vehicle to the Digital FMU Boost port. Refer to the Digital FMU wiring diagram. If you choose to reference an external analog 0-5 vdc source, throttle position, etc., route a #16 red wire from the voltage source to the Digital FMU terminal labeled "+SIG". If you choose to reference an RPM signal, route a #16 green wire from the tach signal source to the Digital FMU terminal labeled "TACH".

Note: If using the PSC on a distributorless ignition system, i.e. Ford modular motors or GM LS series motors. The use of a Tach driver, Autometer 9117 or equiv., will be required

15. On Ford Mustangs the fuel pressure sensor on the fuel rail must be simply unplugged. This will trigger the "service engine soon" trouble light. Or the fuel pressure sensor can be relocated such that it is sensing the pressure between the OEM fuel pump and the external fuel pump. If the fuel rail pressure sensor is not disconnected or relocated, the vehicle will see excessive fuel pressure in the fuel rails and start lowering voltage to the fuel pump.

Note: Be sure to route all fuel lines clear of any moving suspension or drivetrain components and any exhaust components! Protect fuel lines from abrasion and road obstructions or debris.

16. Once all the wires and lines are routed to the Digital FMU location, remove the 4 screws attaching the back cover. Loosen the appropriate terminal strip screw, slide the spade connector under the terminal strip screw and tighten down.

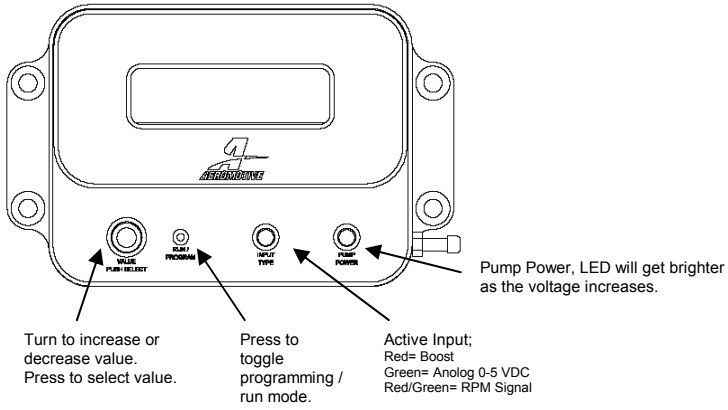


17. Once all connections are made, reattach the back cover and gently tighten the four cover screws.

18. Using the above wiring schematic as a guide, recheck all wires for proper routing. Again, make sure all wires are routed clear of all moving parts and exhaust components. Protect wires from cutting and abrasion as necessary.

19. Carefully lower the car onto the ground.

20. Using the diagram below, familiarize yourself with the basic controls of the Digital FMU.


Pump Power, LED will get brighter as the voltage increases.
Turn to increase or decrease value. Press to select value.
Press to toggle programming / run mode.
Active Input;
Red= Boost
Green= Anolog 0-5 VDC
Red/Green= RPM Signal

21. To start programming the DFMU or make changes to the current program, use a paper clip or piece of wire to depress the run/program button on the front of the DFMU module.

22. Turn the “Value” knob until the desired input signal is show (Boost, Analog 0-5V, or RPM) and press the knob.

23. Follow the menu prompts turning the knob to adjust the value and pressing the knob to select the value.

24. Select the number of zones (1 to 15), this will be the number of programmable output points in your input signal operating range. The each zone output point can be adjusted from 0-100%, 0 being no increase fuel pressure, and 100% be the maximum increase in fuel pressure. As boost, RPM or external voltage is applied to the Digital FMU, the display will show the input signal value and the output value as a percent.

25. When the menu returns to the input type or when you are done making changes depress the run/program button on the front of the DFMU module to return the module to the run mode.

Program Mode

Analog Signal
Number of Zones (1 to 15)
Set Max Voltage (0-9.9 VDC)

RPM Signal
Number of Zones (1 to 15)
Set Max RPM (2,000 to 15,000)
 # Cylinders (2-12)

Boost Signal
Number of Zones (1 to 15)
Set Max Boost (2-30 psig)

26. Test drive the car to ensure proper operation and re-check the fuel system for leaks. **If any leaks are found, immediately discontinue use of the vehicle and repair the leak(s)!**

Thanks for purchasing another quality product designed, engineered and manufactured in Kansas City, USA!

AEROMOTIVE, INC.
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AEROMOTIVE, INC. LIMITED WARRANTY

This Aeromotive Product, with proof of purchase dated on or after January 1, 2003, is warranted to be free from defects in materials and workmanship for a period of one year from the original date of purchase. No warranty claim will be valid without authentic, dated proof of purchase.

This warranty is to the original retail purchaser and none other and is available directly from Aeromotive and not through any point of distribution or purchase.

If a defect is suspected, the retail purchaser must contact Aeromotive directly to discuss the problem, possible solutions and obtain a Return Goods Authorization (RGA), if deemed necessary by the company. Please call 913-647-7300 and dial option 3 for the technical service dept. All returns must be shipped freight pre-paid to the company and with valid RGA before they will be processed.

Aeromotive will examine any product returned with the proper authorization to determine if the failure resulted from a defect or from abuse, improper installation, misapplication or alteration. Aeromotive will then, at it's sole discretion, return, repair or replace the product.

If any Aeromotive product is determined defective, buyer's exclusive remedy is limited in value to the sale price of the good. In no event shall Aeromotive be liable for incidental or consequential damages.

Aeromotive expressly retains the right to make changes and improvements in any product it manufactures and sells at any time. These changes and improvements may be made without notice at any time and without any obligation to change the catalogs or printed materials.

Aeromotive expressly retains the right to discontinue at any time and without notice any Aeromotive product that it manufactures or sells.

This warranty is limited and expressly limits any implied warranty to one year from the date of the original retail purchase on all Aeromotive products.

No person, party or corporate entity other than Aeromotive shall have the right to: determine whether or not this Limited Warranty is applicable to any Aeromotive product, authorize any action whatsoever under the terms and conditions of this Limited Warranty, assume any obligation or liability of any nature whatsoever on behalf of Aeromotive under the terms and conditions of this Limited Warranty.

This Limited Warranty covers only the product itself and not the cost of installation or removal.

This Limited Warranty is in lieu of and expressly excludes any and all other warranties, expressed or implied. This Limited Warranty gives you specific legal rights, and you may also have other rights which vary from state to state.